



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/584,764      | 05/30/2000  | Bunsen Y. Wong       | MM0011              | 1163             |

7590

04/24/2003

David M. Sigmond  
Maxtor Corporation  
Bldg. 2405, Room B159  
2452 Clover Basin Drive  
Longmont, CO 80503

EXAMINER

RICKMAN, HOLLY C

ART UNIT

PAPER NUMBER

1773

DATE MAILED: 04/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/584,764

Applicant(s)

WONG ET AL.

Examiner

Holly C. Rickman

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## P r i d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disp sition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 is/are allowed.
- 6) ☒ Claim(s) 11-13, 16, 18-23, 27-33, 37-43 and 47-50 is/are rejected.
- 7) ☒ Claim(s) 14, 15, 17, 24-26, 34-36 and 44-46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Pri rity under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/23/03 has been entered.

### ***Specification***

2. The substitute specification filed 4/25/02 has been entered.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The rejection of claims 1-50 under 35 U.S.C. 112, first paragraph, is withdrawn in view of Applicant's amendments.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1773

6. Claims 21 and 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21 and 39 are rendered indefinite by the use of the relative phrases "significant effect" and "little...effect." The terms "significant" and "little" in claims 21 and 39 are relative terms which render the claims indefinite. The terms "significant" and "little" are not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. The rejection of claims 1-3, 8-9 and 20 under 35 U.S.C. 102(b) as being anticipated by Zhang (US 5772857) is withdrawn in view of Applicant's amendments.

*withdraw*  
9. Claims 11-13, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhang (US 5772857).

The rejection is maintained for the reasons of record. See Zhang, col. 7, lines 37-48.

***Claim Rejections - 35 USC § 102/103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The rejection of claims 31 and 40 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Zhang (US 5772857) is withdrawn in view of Applicant's amendments.

12. Claims 11-13, 18-22, 27, 29-32, 37, 39-42, 47, and 49-50 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bian et al. (US 6143388).

Bian et al. disclose a magnetic recording medium having a non-magnetic substrate formed from NiP, an underlayer, a magnetic onset layer formed from CoPtCrTa and a magnetic recording layer formed from CoPtCrB. The reference fails to disclose the claimed relationship between the coercivities of the individual layers and the overall coercivity of the medium.

However, it is the Examiner's contention that the claimed coercivity limitations are inherent in Bian's disclosure. The reference teaches that the onset and recording layers having different thicknesses and different compositions. As such, one of ordinary skill in the art can conclude that the layers have different coercivities. Furthermore, one of ordinary skill in the art

can conclude that the total coercivity of the medium will not be the same as that of the coercivities of the individual layers since the Hc values of the individual layers are not equal.

***Claim Rejections - 35 USC § 103***

13. The rejection of claim 19 under 35 U.S.C. 103(a) as being unpatentable over Zhang (US 5772857) in view of Zhang (US 5858566) is withdrawn in view of Applicant's amendments.

14. Claims 16, 23, 28, 33, 38, 43, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bian et al. (US 6143388).

Bian et al. disclose all of the limitations of the claims as set forth above, except for the specific compositions of the CoPtCrB and CrPtCrTa layers disclosed therein and an embodiment having the same quaternary alloys in each magnetic layer.

Bian et al. disclose a magnetic onset layer having the composition 4-14 at% Pt, 10-23 at% Cr, 1-5 at% Ta, balance Co (col. 3, lines 51-54). The reference also teaches that the magnetic layer is formed from 4-12 at% Pt, 10-23 at% Cr, 2-10 at% B, balance cobalt (col. 8, claim 22). It would have been obvious to one of ordinary skill in the art at the time of invention to choose suitable amounts of each element from within the disclosed ranges in order to produce magnetic layers having the desired magnetic properties.

The reference also teaches that the onset layer can be formed from a material such as CoPtCrB in addition to CoPtCrTa. In view of the disclosed equivalence of the two materials, it would have been obvious to substitute a CoPtCrB onset layer for the CoPtCrTa onset layer used in conjunction with the CoPtCrB magnetic recording layer.

***Response to Arguments***

15. Applicant's arguments filed 1/23/03 have been considered but are moot in view of the new grounds of rejection.

***Allowable Subject Matter***

16. Claims 1-10 are allowable over the prior art.

17. Claims 14-15, 17, 24-26, 34-36, and 44-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (703) 305-2642. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703) 308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Art Unit: 1773

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to read "Holly Rickman". The signature is fluid and cursive, with the first name "Holly" being more prominent than the last name "Rickman".

Holly Rickman  
Primary Examiner  
Art Unit 1773

hcr  
April 21, 2003